

1992 CORROSION Index

Volume 48, Nos. 1-12

JANUARY

- Technical Note: Wear Corrosion: Separation of the Components of Corrosion and Wear
M.B. Abuzriha, R.A. Dodd, F.J. Worzala, and J.R. Conrad 2
- A Polarized Technique by an Increase of Cathodic Area for Detecting Pitting Attacks in Aluminum Galvanically Coupled to Tin
O. Seri and S. Furuya 5
- Contribution to Adsorption of Aromatic Amines on Mild Steel Surface from HCl Solutions by Impedance, UV, and Raman Spectroscopy
G. Banerjee and S.N. Malhotra 10
- Electrochemical Potential Measurements Under Simulated BWR Water Chemistry Conditions
C.C. Lin, F.R. Smith, N. Ichikawa, and M. Itow 16
- The Corrosion Contribution to Circumferential Cracking in Waterwall Boiler Tubes
B.J. Smith and A.R. Marder 29
- Calculation of pH for High-Temperature Sulfate Solutions at High Ionic Strengths
B.R. Staples, G.R. Holcomb, and S.D. Cramer 35
- Influence of Chromium Depletion on Intergranular Stress Corrosion Cracking of 304 Stainless Steel
S.M. Bruemmer, B.W. Arey, and L.A. Charlot 42
- Calculation of Seawater pH at Polarized Metal Surfaces in the Presence of Surface Films
S.C. Dexter and S.H. Lin 50
- Corrosion Protection of Al/SiC Metal Matrix Composites by Anodizing
S. Lin, H. Greene, H. Shih, and F. Mansfeld 61
- The Effect of Corrosion on the Shipboard Performance of EM/EMP Ground Adapters: Original and Improved Design Concepts
D.S. Dixon 68
- Corrosion Behavior of Titanium Alloys in a Sulfur-Containing $H_2S-CO_2-Cl^-$ Environment
M. Ueda, T. Kudo, S. Kitayama, and Y. Shida 79

FEBRUARY

- Sulfide Stress Cracking of Nickel Steels
B.D. Craig, J.K. Brownlee, and T.V. Bruno 90
- Behavior in Seawater of Zinc-Base Coatings on Aluminum Alloy 5086
Y.G. Kweon and C. Coddet 97
- Effect of Boric Acid on Pit Growth in Alloy 600 Steam Generator Tubing
G.S. Was and D. Choi 103
- Characterization of Austenitic Stainless Steel Pipe Welds After Prolonged Power Plant Exposure
H. Hanninen, P. Aaltonen, P. Nenonen, R. Jargelius, and B. Lehtinen 114
- Corrosion Properties of Cast Iron Ball Materials in Wet Grinding
Vathsala Rajagopal and I. Iwasaki 124
- Nature of Corrosive and Abrasive Wear of Chromium-Bearing Cast Iron Grinding Media
Vathsala Rajagopal and I. Iwasaki 132
- AC-Induced Localized Corrosion of Tin-Coated Copper Conductors in Simulated Soil Environments
O.J. Van Der Schijff and O.F. Devereux 140
- Pitting Corrosion of Inconel 600 in Chloride and

- Thiosulfate Anion Solutions at Low Temperature
J.T. Ho and G.P. Yu 147
- Interlaboratory Testing of Seven Alloys for SSC Resistance by the Double Cantilever Beam Method
D.L. Sponseller 159
- Fatigue Properties of Hydrided Titanium Condenser Tubes
W.H. Hart and L. Liu 172

MARCH

- Detection of the Initiation of Pitting by the Higher Harmonic Content of Electrochemical Response
M. Kendig and D. Anderson 178
- Factors Influencing the Breakdown Susceptibility of the Passive Film on Cu-Ni Alloy
I. Milošev and M. Metkoš-Huković 185
- Viability of Hydrogen Water Chemistry for Protecting In-Vessel Components of Boiling Water Reactors
D.D. Macdonald 194
- Erosion-Corrosion Behavior of Some Cast Alloys in Seawater
H.M. Shalaby, S. Attari, W.T. Riad, and V.K. Gouda 206
- Effect of Zeta Potential on Adhesion of Organic Coatings
M. Kendig 218
- Technical Note: Use of Potentiodynamic Polarization to Assess Pitting of Stainless Steels by Sulfate-Reducing Bacteria
D.A. Moreno, J.R. Ibars, C. Ranninger, and H.A. Videla 226
- Electronic Properties and Defect Structure of Fe and Fe-Cr Passive Films
M.J. Klopers, F. Bellucci, and R.M. Latanision 229
- Development of Controlled Hydrodynamic Techniques for Corrosion Testing
T.Y. Chen, A.A. Moccari, and D.D. Macdonald 239
- Limitations of the Slow Strain Rate Test for Stress Corrosion Cracking Testing
J.A. Beavers and G.H. Koch 256

APRIL

- Effects of a Corrosion Inhibitor on Bacteria and Microbiologically Influenced Corrosion
E.R. Freiler 266
- Effect of Water Activity on Corrosion
N.G. Smart and J.O.M. Bockris 277
- Galvanic Corrosion Between Nonmetallic Composites and Metals II. Effect of Area Ratio and Environmental Degradation
F. Bellucci 281
- Development of a Pit Growth Resistance Parameter for the Study of Pit Growth in Alloy 600
D. Choi and G.S. Was 292
- Technical Note: Stress Corrosion Cracking Behavior of Two High-Strength Al-xCu-Li-Ag-Mg-Zr Alloys
W.C. Moshier, B.A. Shaw, W.T. Tack, and B. Phull 306
- Intergranular Corrosion Behavior of Aluminum Alloys Exposed to Artificial Seawater in the Presence of Nitrate Anion

- J.F. McIntyre and T.S. Dow 309
- Stress Corrosion Cracking and Anodic Dissolution of 316L Stainless Steel in Hot Lithium Hydroxide
J.H. Zheng, W.F. Bogaerts, and M.J. Brabers 320
- Current Distributions in Galvanically Coupled and Cathodically Protected Tubes
R.A. Holser, G. Prentice, R.B. Pond Jr., and R.J. Guanti 332
- Corrosion Inhibition for Severely Corrosive Gas Wells
M.C. Place Jr. 341

MAY

- 1992 Whitney Award Lecture: Corrosion Damage Function—Interface Between Corrosion Science and Engineering
D.D. Macdonald and M. Urquidí-Macdonald 354
- Cathodic Disbonding in Microelectronics Observed by *In Situ* Scanning Acoustic Microscopy
M. Kendig, M. Abdel-Gawad, and R. Addison 368
- Damage to Composites from Electrochemical Processes
M.N. Alias and R. Brown 373
- Zinc-Rich Paints on Steels in Artificial Seawater by Electrochemical Impedance Spectroscopy
R.A. Armas, C.A. Gervasi, D. Di Sarli, S.G. Real, and J.R. Vilche 379
- DL-EPR Study of Neutron Irradiation in Type 304 Stainless Steel
R. Katsura, M. Kodama, and S. Nishimura 384
- Stress Corrosion Cracking of Zirconium in Hot Nitric Acid
H. Kajimura and H. Nagano 391
- Localized Corrosion of Nanocrystalline 304 Type Stainless Steel Films
R.B. Inturi and Z. Szklarska-Smialowska 398
- X-ray Photoelectron Spectroscopy Investigation of Corrosion Behavior of ASTM C71640 Copper-Nickel Alloy in Seawater
R. Zannoni, G. Gusmano, G. Montesperelli, and E. Traversa 404
- Copper Dissolution and Hydrogen Peroxide Formation in Aqueous Media
S.A. Olszowska, M.A. Manning, and A. Barkatt 411
- Effect of MnS Inclusions on Stress Corrosion Cracking in Low-Alloy Steels
J. Kuniya, H. Anzai, and I. Masaoka 419
- Factors Controlling the Amount of Corrosion for Cracking in Reinforced Concrete
M.L. Allan and B.W. Cherry 426
- Modeling Microturbulences at Surface Imperfections as Related to Flow-Induced Localized Corrosion
G.A. Schmitt, W. Bücken, and R. Fanebust 431

JUNE

- Solvents' Role on HCl-Induced Corrosion of Mild Steel: Its Control by Propargyl Alcohol and Metal Cations
B.B. Paty and D.D.N. Singh 442
- Corrosion of Mild Steel Using Electrochemical Impedance Spectroscopy Data Analysis

- P.R. Roberge, E. Halliop, and V.S. Sastry 447
- Comparative Studies of SCC in Two Austenitic Stainless Steels and Alloy 600 on Exposure to Lithiated Water at 350°C
Z. Szklarska-Smialowska, Z. Xia, and S.W. Sharkawy 455
- Technical Note: Error Propagation in Coupon Immersion Tests
R.A. Freeman and D.C. Silverman 463
- Effect of Nb on Intergranular Precipitation Behavior of Cr Carbides in N-Bearing Austenitic Stainless Steels
H. Uno, A. Kimura, and T. Misawa 467
- Formation of Ferrous Sulfide Film from Sulfite on Steel Under Anaerobic Conditions
T. Hemmingsen, H. Vangdal, and T. Vålund 475
- Effect of Chlorate and Perchlorate Anions on Lead Passivity in NaOH Solutions Under Galvanostatic Polarization
E.E. Abd El Aal 482
- Substrate, Surface Finish, and Flow Rate Influences on Calcareous Deposit Structure
K.E. Mantel, W.H. Hart, and T.Y. Chen 489
- Passivation Behavior of Carbon Steel Alloy in the Presence of EDTA, Ni(II)EDTA, and LiOH at 473 K
P.S. Joshi, G. Venkateswaran, and K.S. Venkateswarlu 501
- Electrolyte System of EPR Test for Detecting Sensitization in Austenitic Stainless Steel (Errata 12:967-968)
H. Huang, C. Liu, and S. Chen 509
- Corrosion of Aluminum Alloy in Aircraft Fuel Tank Compartments Due to Condensed Water
Z.D. Liang 514
- Stress Corrosion Cracking of Sensitized Austenitic Stainless Steels in High-Temperature Water
T. Tsuruta and S. Okamoto 518

JULY

- Enhanced Hydrogen Entry in Iron at Low Anodic and Low Cathodic Polarizations in Neutral and Alkaline Solutions
J. Flis and T. Zakroczyński 530
- Corrosion Measurement of 13Cr Steel Alloy in 0.1 N H₂SO₄ Solution by Voltammetry
T. Motooka, Y. Sugie, and S. Fujii 540
- Galvanic Corrosion of Aluminum-Matrix Composites
L.H. Hihara and R.M. Latanision 546
- Environmentally Assisted Cracking of Alloy X-750 in Simulated PWR Coolant
P. Skeldon, P.M. Scott, and P. Hurst 553
- Influence of Ni, Mo, and Cr on Pitting Corrosion of Steels Studied by Raman Spectroscopy
N. Boucherit, A. Hugot-Le Goff, and S. Joiret 569
- Susceptibility of As-Welded and Thermally Aged Type 316LN Weldments Toward Pitting and Intergranular Corrosion
M.G. Pujar, U. Kamachi Mudali, R.K. Dayal, and T.P.S. Gill 579
- Steady-State Model for Erosion-Corrosion of Feedwater Piping
M. Abdulsalam and J.T. Stanley 587
- Technique for Detecting Sensitization in Austenitic Stainless Steel
S. Chen, H. Huang, C. Liu, and Y. Pan 594
- High-Temperature Corrosion of Laser-Glazed Alloys in Na₂SO₄-V₂O₅
Y. Longa and M. Takemoto 599
- Mechanism for Barnacle-Induced Crevice Corrosion in Stainless Steel
M. Eashwar, G. Subramanian, P. Chandrasekaran, and K. Balakrishnan 608

- Iron Phosphate Coatings—Composition and Corrosion Resistance
G. Górecki 613

AUGUST

- SCC Analysis of Austenitic Stainless Steels in Chloride-Bearing Water by Neural Network Techniques
H.M.G. Smets and W.F.L. Bogaerts 618
- On The Determination of Polarization Diagrams of Reinforcing Steel in Concrete
A.A. Sagüés and S.C. Kranc 624
- Effect of Applied Potential on Room Temperature Stress Corrosion Cracking of Austenitic Stainless Steel Weldments
K.S. Raja and K.P. Rao 634
- Inhibition Mechanism of Sodium 3-n-Octylmercaptopropionate for Iron Corrosion in 0.5 M NaCl Solution
Y. Yamamoto, H. Nishihara, and K. Aramaki 641
- Relationship Between Conventional Pitting and Protection Potentials and a New, Unique Pitting Potential
N.G. Thompson and B.C. Syrett 649
- Blistering Mechanisms of Thermally Sprayed Zinc and Zinc-Based Coatings in Seawater
Y.G. Kweon and C. Coddet 660
- Diffusion of Iron Ions Through Protective Coatings on Steel
T. Skoulikidis and A. Ragoussis 666
- Testing Organic Architectural Coatings in ASTM Synthetic Seawater Immersion Conditions Using EIS
J.N. Murray and H.P. Hack 671
- Activators for EPR Test in Detecting Sensitization of Stainless Steel
C. Liu, H. Huang, and S. Chen 686
- Galvanic Corrosion in Oil and Gas Production: Part 1—Laboratory Studies
S.M. Wilhelm 691

SEPTEMBER

- Reproducibility of Polarization Resistance Measurements in Steel-in-Concrete Systems
A. Sehgal, D. Li, Y.T. Kho, K. Osseo-Asare, and H.W. Pickering 706
- Modified Electrochemical Potentiokinetic Reactivation Method for Detecting Sensitization in 12 wt% Cr Ferritic Stainless Steels
S. Frangini and A. Mignone 715
- Applicability of Reference Electrode Types in Transient Electrochemical Experiments
S.W. Watson and B.W. Madsen 727
- Corrosion Prediction from Polarization Scans Using an Artificial Neural Network Integrated with an Expert System
E.M. Rosen and D.C. Silverman 734
- Effect of Lead Water Chemistry on Oxide Thin Film of Alloy 600
T. Sakai, K. Aoki, T. Shigemitsu, and Y. Kishi 745
- Acoustic Emission During Pitting and Transgranular Crack Initiation in Type 304 Stainless Steel
R.H. Jones and M.A. Friesel 751
- Effect of Inhibitors and Admixed Chloride on Electrochemical Corrosion Behavior of Mild Steel Reinforcement in Concrete in Seawater
C.A. Loto 759
- Kinetic, Solution, and Interfacial Aspects of Iron Corrosion in Heavy Brine Solutions
N.G. Smart, R.C. Bhardwaj, and J.O'M. Bockris 764
- Technical Note: Localized Corrosion Initiation on Magnesium Alloys

- V. Mitrovic-Scepanovic and R.J. Brigham 780
- Prediction of Pitting Probability on 1050 Aluminum in Environmental Conditions
T.F. Otero, A. Porro, and A.S. Elola 785

OCTOBER

- Review of Applications of Impedance and Noise Analysis to Uniform and Localized Corrosion
G. Gabrielli and M. Keddam 794
- Corrosion Kinetics of Low- and High-Alloy Steels in Chlorine-Containing Gas Atmospheres
V.A.C. Haanappel, N.W.J. Haanappel, T. Fransen, H.D. van Corbach, and P.J. Gellings 812
- Stress Corrosion Cracking of Stainless Alloys in Alkaline Sulfide Solutions
M. Honda, Y. Kobayashi, and A. Tamada 822
- Corrosion of Graphite-Fiber-Reinforced Composites I—Galvanic Coupling Damage
F.E. Sloan and J.B. Talbot 830
- Critical Cracking Potentials of 26Cr-1 Mo Ferritic Stainless Steels in Boiling 42% LiCl Solution
H.S. Kwon, R.F. Hehemann, and A.R. Troiano 838
- Interrelation Between the Structure of Perfluoropolyalkylether Derivatives in Rust-Protective Materials
V.G. Melnikov, V.I. Nazarov, M.S. Khots, L.B. Kapustina, and T.V. Popkova 846
- Evolution of the Pitting of Aluminum Exposed to the Atmosphere
A.S. Elola, T.F. Otero, and A. Porro 854
- Testing of Stainless Steel Welds for Various Applications
T. Rogne, J.M. Drugli, and S. Valen 864
- Comparison of Corrosion Rate-Measuring Devices for Determining Corrosion Rate of Steel-in-Concrete Systems
A. Sehgal, Y.T. Kho, K. Osseo-Asare, and H.W. Pickering 871

NOVEMBER

- Stress Corrosion Cracking of Type 430 Ferritic Stainless Steel in Chloride and Sulfate Solutions
R. Nishimura 882
- Oxidation and Corrosion Resistance of Two Fe-8Cr-16Ni-Si-Cu Alloys
S.J. Bullard, D.E. Larson, and J.S. Dunning 891
- Stress Corrosion Cracking Behavior of Al Li 2090-T83 in Artificial Seawater
A. Buis and J. Schijve 898
- Use of DC Electrochemical Methods for Evaluation of Paint Films on Steel, Aluminum, and Zinc
U. Steinsmo and E. Bardal 910
- Influence of Sulfur on Passivation of Iron in Alkali Solutions
M. Jayalakshmi and V.S. Muralidharan 918
- Structural Investigation of N-Arylpyrroles as Iron Corrosion Inhibitors in Hydrochloric Acid
E. Stupnišek-Lisac, M. Metkoš-Huković, D. Lenčić, J. Vorkapić-Furač, and K. Berković 924
- Electrochemical Aspects of Cold Work Effect on Corrosion of Mild Steel in Sour Gas Environments
H. Huang and W.J.D. Shaw 931
- Oxidation of Intermetallic Alloys in Ti-Al-Nb Ternary System
G. Chen, Z. Sun, and X. Zhou 939
- Factors Affecting Adhesion on Concrete of Arc-Sprayed Zinc

- R. Brousseau, M. Arnott, S. Dallaire, and R. Feldman947
 Conjoint Action of CO₂ Corrosion and Reciprocating Sliding Wear on Plain Carbon Steel Part I—Effect of Contact Pressure and Amine Inhibitor
 A. Hedayat, S. Yannacopoulos, and J. Postlethwaite953
 Evaluation of the Effect of Oxidation Products of Aluminum Sacrificial Anodes in Reinforced Concrete Structures
 O.T. de Rincón, A.R. de Carruyo, D. Romero, and E. Cuica960

DECEMBER

- Effect of Flow Rates on Localized Corrosion Behavior of 304 Stainless Steel in Ozonated 0.5 N NaCl

- B.E. Brown, H.H. Lu, and D.J. Duquette970
 Continuous Cooling Sensitization of Type 316 Austenitic Stainless Steel
 J.W. Simmons, D.G. Atteridge, and S.M. Bruemmer976
 Degradation of SiC-Base Materials in Environments Containing Potassium Salt Vapors
 V.K. Pareek and D.A. Shores983
 Oxidation Behavior of Co-15wt% Cr Alloy Containing Dispersed Oxides Formed by Internal Oxidation
 P.Y. Hou, Z.R. Shui, and J. Stringer990
 Hydrogen Permeation Through Cathodically Protected Iron Membranes in Simulated Concrete Environment
 A.M. El-Sherik and M. Shirkhanzadeh1001
 Atmospheric Corrosion Model for Galvanized Steel Structures

- J.W. Spence, F.H. Haynie, F.W. Liptert, S.D. Cramer, and L.G. McDonald1009
 Corrosion of Graphite-Fiber-Reinforced Composites II—Anodic Polarization Damage
 F.E. Sloan and J.B. Talbot1020
 Conjoint Action of CO₂ Corrosion and Reciprocating Sliding Wear on Plain Carbon Steel Part II—Electrochemical Studies
 A. Hedayat, J. Postlethwaite, and S. Yannacopoulos1027
 Corrosion of Rusted Steel in Aqueous Solutions of Tannic Acid
 M. Morcillo, S. Feliu, J. Simancas, J.M. Bastidas, J.C. Galvan, S. Feliu Jr., and E.M. Almeida1032
 Leachability of Lead from Selected Copper-Base Alloys
 J.I. Paige and B.S. Covino Jr.1040

1992 Author Index

The issue number (in **boldface** type) is followed by the page number; for example, "Aaltonen, P., 2:114" indicates that a paper by P. Aaltonen can be found in the February issue (2), beginning on page 114. Refer to page 1047 in this issue for the corresponding paper title.

A

- Aaltonen, P., 2:114
 Abd El Aal, E.E., 6:482
 Abdel-Gawad, M., 5:368
 Abdulsalam, M., 7:587
 Abuzriba, M.B., 1:2
 Addison, R., 5:368
 Alias, M.N., 5:373
 Allan, M.L., 5:426
 Almeida, E.M., 12:1032
 Anderson, D., 3:178
 Anzai, H., 5:419
 Aoki, K., 9:745
 Aramaki, K., 8:641
 Arey, B.W., 1:42
 Armas, R.A., 5:379
 Arnott, M., 11:947
 Attari, S., 3:206
 Atteridge, D.G., 12:976

B

- Balakrishnan, K., 7:608
 Banerjee, G., 1:10
 Bardal, E., 11:910
 Barkatt, A., 5:411
 Bastidas, J.M., 12:1032
 Beavers, J.A., 3:256
 Bellucci, F., 3:229; 4:281
 Berković, K., 11:924
 Bhardwaj, R.C., 9:764
 Bockris, J.O'M., 4:277; 9:764
 Bogaerts, W.F.L., 4:320; 8:618
 Boucherit, N., 7:569
 Brabers, M.J., 4:320
 Brigham, R.J., 9:780
 Brousseau, R., 11:947
 Brown, B.E., 12:970
 Brown, R., 5:373
 Brownlee, J.K., 2:90
 Bruemmer, S.M., 1:42
 Bruno, T.V., 2:90
 Bücken, W., 5:431
 Buis, A., 11:898
 Bullard, S.J., 11:891

C

- Chandrasekaran, P., 7:608
 Charlot, L.A., 1:42
 Chen, G., 11:939
 Chen, S., 6:509; 7:594; 8:686
 Chen, T.Y., 3:239; 6:489
 Cherry, B.W., 5:426
 Choi, D., 2:103; 4:292
 Coddet, C., 2:97; 8:660
 Conrad, J.R., 1:2
 Covino Jr., B.S., 12:1040
 Craig, B.D., 2:90
 Cramer, S.D., 1:35; 12:1009
 Cuica, E., 11:960

D

- Dallaire, S., 11:947
 Dayal, R.K., 7:579
 De Carruyo, A.R., 11:960
 De Rincón, O.T., 11:960
 Devereux, O.F., 2:140
 Dexter, S.C., 1:50
 Di Sarli, A., 5:379
 Dixon, D.S., 1:68
 Dodd, R.A., 1:2
 Dow, T.S., 4:309
 Drugli, J.M., 10:864
 Dunning, J.S., 11:891
 Duquette, D.J., 12:970

E-F

- Eashwar, M., 7:608
 El-Sherik, A.M., 12:1001
 Eliola, A.S., 9:785; 10:854
 Fanebust, R., 5:431
 Feldman, R., 11:947
 Feliu, S., 12:1032
 Feliu Jr., S., 12:1032
 Flis, J., 7:530
 Frangini, S., 9:715
 Fransen, T., 10:812
 Freeman, R.A., 6:463
 Freiter, E.R., 4:266
 Friesel, M.A., 9:751

- Fujii, S., 7:540
 Furuya, S., 1:5

G

- Gabrielli, G., 10:794
 Galvan, J.C., 12:1032
 Gellings, P.J., 10:812
 Gervasi, C.A., 5:379
 Gill, T.P.S., 7:579
 Górecki, G., 7:613
 Gouda, V.K., 3:206
 Greene, H., 1:61
 Guanti, R.J., 4:332
 Gusmano, G., 5:404

H

- Haanappel, V.A.C., 10:812
 Haanappel, N.W.J., 10:812
 Hack, H.P., 8:671
 Halliop, E., 6:447
 Hänninen, H., 2:114
 Hartt, W.H., 2:172; 6:489
 Haynie, F.H., 12:1009
 Hedayat, A., 11:953; 12:1027
 Hehemann, R.F., 10:838
 Hemmingsen, T., 6:475
 Hihara, L.H., 7:546
 Ho, J.T., 2:147
 Holcomb, G.R., 1:35
 Holser, R.A., 4:332
 Honda, M., 10:822
 Hou, P.Y., 12:990
 Huang, H., 6:509; 7:594; 8:686; 11:931
 Hugot-Le Goff, A., 7:569
 Hurst, P., 7:553

I-J

- Ibars, J.R., 3:226
 Ichikawa, N., 1:16
 Inturi, R.B., 5:398
 Itow, M., 1:16

Iwasaki, I., 2:124; 2:132
 Jargelius, R., 2:114
 Jayalakshmi, M., 11:918
 Joiret, S., 7:569
 Jones, R.H., 9:751
 Joshi, P.S., 6:501

K

Kajimura, H., 5:391
 Kamachi Mudali, U., 7:579
 Kapustina, L.B., 10:846
 Katsura, R., 5:384
 Keddum, M., 10:794
 Kendig, M., 3:178; 3:218; 5:368
 Kho, Y.T., 9:706; 10:871
 Khot, M.S., 10:846
 Kimura, A., 6:467
 Kishi, Y., 9:745
 Kitayama, S., 1:79
 Kloppers, M.J., 3:229
 Kobayashi, Y., 10:822
 Koch, G.H., 3:256
 Kodama, M., 5:384
 Kranc, S.C., 8:624
 Kudo, T., 1:79
 Kuniya, J., 5:419
 Kweon, Y.G., 2:97; 8:660
 Kwon, H.S., 10:838

L

Larson, D.E., 11:891
 Latanision, R.M., 3:229; 7:546
 Lehtinen, B., 2:114
 Lencić, D., 11:924
 Li, D., 9:706
 Liang, Z.D., 6:514
 Lin, C.C., 1:16
 Lin, S.H., 1:50
 Lin, S., 1:61
 Lipfert, F.W., 12:1009
 Liu, C., 6:509; 7:594; 8:686
 Liu, L., 2:172
 Longa, Y., 7:599
 Loto, C.A., 9:759
 Lu, H.H., 12:970

M

Macdonald, D.D., 3:194; 3:239; 5:354
 Madsen, B.W., 9:727
 Malhotra, S.N., 1:10
 Manning, M.A., 5:411
 Mansfield, F., 1:61
 Mantel, K.E., 6:489
 Marder, A.R., 1:29
 Masaoka, I., 5:419
 McDonald, L.G., 12:1009
 McIntyre, J.F., 4:309
 Melnikov, V.G., 10:846
 Metikoš-Huković, M., 3:185; 11:924
 Mignone, A., 9:715
 Milošev, I., 3:185
 Misawa, T., 6:467
 Mitrovic-Scepanovic, V., 9:780
 Moccari, A.A., 3:239
 Montesperelli, G., 5:404

Morcillo, M., 12:1032
 Moreno, D.A., 3:226
 Moshier, W.C., 4:306
 Motooka, T., 7:540
 Muralidharan, V.S., 11:918
 Murray, J.N., 8:671

N-O

Nagano, H., 5:391
 Nazarov, V.I., 10:846
 Nenonen, P., 2:114
 Nishihara, H., 8:641
 Nishimura, R., 11:882
 Nishimura, S., 5:384
 Okamoto, S., 6:518
 Olszowska, S.A., 5:411
 Osseo-Asare, K., 9:706; 10:871
 Otero, T.F., 9:785; 10:854

P

Paige, J.I., 12:1040
 Pan, Y., 7:594
 Pareek, V.K., 12:983
 Paty, B.B., 6:442
 Phull, B., 4:306
 Pickering, H.W., 9:706; 10:871
 Place Jr., M.C., 4:341
 Pond Jr., R.B., 4:332
 Popkova, T.V., 10:846
 Porro, A., 9:785; 10:854
 Postlethwaite, J., 11:953; 12:1027
 Prentice, G., 4:332
 Pujar, M.G., 7:579

R

Ragoussis, A., 8:666
 Raja, K.S., 8:634
 Rajagopal, V., 2:124; 2:132
 Ranninger, C., 3:226
 Rao, K.P., 8:634
 Real, S.G., 5:379
 Riad, W.T., 3:206
 Roberge, P.R., 6:447
 Rogne, T., 10:864
 Romero, D., 11:960
 Rosen, E.M., 9:734

S

Sagüés, A.A., 8:624
 Sakai, T., 9:745
 Sastri, V.S., 6:447
 Schijve, J., 11:898
 Schmitt, G.A., 5:431
 Scott, P.M., 7:553
 Sehgal, A., 9:706; 10:871
 Seri, O., 1:5
 Shalaby, H.M., 3:206
 Sharkawy, S.W., 5:455
 Shaw, B.A., 4:306
 Shaw, W.J.D., 11:931
 Shida, Y., 1:79
 Shigemitsu, T., 9:745
 Shih, H., 1:61
 Shirkhanzadeh, M., 12:1001

Shores, D.A., 12:983
 Shui, Z.R., 12:990
 Silverman, D.C., 6:463; 9:734
 Simancas, J., 12:1032
 Simmons, J.W., 12:976
 Singh, D.D.N., 6:442
 Skeldon, P., 7:553
 Skoulikidis, T., 8:666
 Sloan, F.E., 10:830; 12:1020
 Smart, N.G., 4:277; 9:764
 Smets, H.M.G., 8:618
 Smith, B.J., 1:29
 Smith, F.R., 1:16
 Spence, J.W., 12:1009
 Sponseller, D.L., 2:159
 Stanley, J.T., 7:587
 Staples, B.R., 1:35
 Steinsmo, U., 11:910
 Stringer, J., 12:990
 Stupnisek-Lisac, E., 11:924
 Subramanian, G., 7:608
 Sugie, Y., 7:540
 Sun, Z., 11:939
 Syrett, B.C., 8:649
 Szklarska-Smialowska, Z., 5:398; 6:455

T

Tack, W.T., 4:306
 Takemoto, M., 7:599
 Talbot, J.B., 10:830; 12:1020
 Tamada, A., 10:822
 Thompson, N.G., 8:649
 Traversa, E., 5:404
 Troiano, A.R., 10:838
 Tsuruta, T., 6:518

U-V-W

Ueda, M., 1:79
 Uno, H., 6:467
 Urquidí-Macdonald, M., 5:354
 Váland, T., 6:475
 Valen, S., 10:864
 Van Corbach, H.D., 10:812
 Van Der Schijff, O.J., 2:140
 Vangdal, H., 6:475
 Venkateswaran, G., 6:501
 Venkateswarlu, K.S., 6:501
 Videla, H.A., 3:226
 Vilche, J.R., 5:379
 Vorkapić-Furač, J., 11:924
 Was, G.S., 2:103; 4:292
 Watson, S.W., 9:727
 Wilhelm, S.M., 8:691
 Worzala, F.J., 1:2

X-Y-Z

Xia, Z., 6:455
 Yamamoto, Y., 8:641
 Yannacopoulos, S., 11:953; 12:1027
 Yu, G.P., 2:147
 Zakroczyński, T., 7:530
 Zanon, R., 5:404
 Zheng, J.H., 4:320
 Zhou, X., 11:939

1992 Key Word Index

A Guide to *CORROSION* Volume 48

This index is an alphabetical list of key words included in volume 48 of *Corrosion*. Information classifications (in **boldface** type) are followed by issue number(s) (also in **boldface** type) and beginning page number(s). For example, under the classification **ABRASION**, information concerning this topic can be found in the February issue (2), in an article that begins on page 124. Refer to page 1047 in this issue for the corresponding titles.

ABRASION

2:124, 132

ACIDIC DEPOSITION

12:1009

ACID INHIBITOR

11:924

ACID SOLUTION

11:882

AC IMPEDANCE

2:124

ACOUSTIC MICROSCOPY

5:368

ACOUSTIC MONITORING

9:751

ADHESION

3:218

loss 5:368

ADSORPTION

1:10

AIRCRAFT CORROSION

6:514

ALKALI SOLUTIONS

11:918

ALKALINE ENVIRONMENT

10:822

ALLOY

2:159

600 2:103, 6:455, 9:745

Al-Li 4:306, 11:898

X-750 7:553

90/10 Cu-Ni 3:239

ALUMINIDES

11:939

ALUMINUM

1:5, 61, 7:546, 9:785

alloys 3:256

alloy 8090 3:178

oxides 6:514

AMINE INHIBITOR

11:953, 12:1027

ANAEROBIC

6:475

ANNULAR MIST FLOW

5:431

ANODIC

12:1020

ANODIC POLARIZATION

1:5

ANODIZING

1:61

ANTENNA PERFORMANCE

1:68

APPLICATIONS

10:864

APPLIED POTENTIALS

8:634

ARTIFICIAL NEURAL NETWORKS

9:734

ATMOSPHERIC CAUSES

6:514

ATMOSPHERIC CORROSION MODEL

12:1009

AUGER ELECTRON SPECTROSCOPY

4:320

AUSTENITIC

2:114, 8:634

stainless steel 6:467, 7:579

AUXILIARY ELECTRODE

1:5

AVERAGE PIT DEPTH

10:854

BACK PROPAGATION

9:734

BACTERIA

7:608

BARNACLE

7:608

BIOFILM

1:50

BLISTERING

2:97, 8:660

BOILER TUBES

1:29

BOILING WATER REACTORS

3:194

BORIC ACID

2:103

BRASS

12:1040

CALCAREOUS DEPOSIT

1:50, 6:489

CAPSULE TEST

4:292

CARBIDE PRECIPITATION

6:467

CARBON DIOXIDE

4:341, 12:1009

CARBON STEELS

3:218, 256, 6:447, 475, 11:953, 12:1027

CATHODIC

5:373, 10:830

disbondment 3:218

CATHODIC PROTECTION

1:2, 50, 2:172, 4:332, 8:624, 11:947, 960

CERAMIC COMPOSITES

12:983

CHEMICAL PROCESS INDUSTRY

3:256

CHLORATE

6:482

CHLORIDE

4:277

failure analysis 8:618

CHLORINATION

5:404

CHROMIA SCALES

12:990

CHROMIUM

11:891

depletion 5:384, 7:594

CHROMIUM NIOBIUM NITRIDE

6:467

CIRCUMFERENTIAL CRACKING

1:29

CO₂ CORROSION

5:431, 11:953, 12:1027

COATING

7:599

composition 7:613

COLD WORK

11:931

COMPOSITE

5:373, 10:830, 12:1020

COMPUTER MODELING

8:624

CONCRETE

8:624, 11:947

CONDENSER TUBES

2:172

CONDUCTIVITY

9:727

CONTACT CORROSION

6:514

CONTINUOUS COOLING SENSITIZATION

12:976

COPPER

2:140, 5:411

acid sulfate test 9:715

alloys 3:256
nickel alloy 3:185, 5:404
sulfate 1:16

CORROSION BEHAVIOR DIAGRAM
11:891

CORROSION CURRENT
2:132

CORROSION ELONGATION CURVE
11:882

CORROSION-INDUCED CRACKING
5:426

CORROSION INHIBITOR
1:10, 8:641

CORROSION MONITORING
6:447

CORROSION POTENTIAL (E_{corr})
9:759, 11:931

CORROSION PREDICTION
9:734

CORROSION RATE
1:2, 2:124, 4:277, 10:846, 11:924

CORROSION RATE MEASURING DEVICES
10:871

CORROSION RESISTANCE
1:61, 6:514, 7:613, 10:864

CORROSIVE ATMOSPHERES
10:812

COUPONS
6:501

CRACK INITIATION
9:751

CREVICE
6:518

CREVICE CORROSION
7:608

CRITICAL CRACKING POTENTIAL
10:838

CRITICAL PITTING POTENTIAL
5:354, 7:579

CURRENT DISTRIBUTION
4:332

CYCLIC POTENTIODYNAMIC EXPERIMENTS
4:292

CYCLIC VOLTAMMETRY
11:918

DEBYE-HUCKEL
1:35

DELTA FERRITE
7:579, 8:634

DEPASSIVATION
1:2

DIFFUSION
9:759

DISBONDING
5:368

DISSOLVED OXYGEN
7:608

DOUBLE CANTILEVER BEAM TEST
2:159

**DOUBLE-LOOP ELECTROCHEMICAL
POTENTIOKINETIC REACTIVATION TEST**
5:384

DUMMY CIRCUITS
9:727

DUPLEX STAINLESS STEEL
3:206

E-LOG i
8:624

ELECTROCHEMICAL
corrosion potential 4:320
impedance 2:97
impedance spectroscopy 5:379, 6:447, 8:671
method 11:910
noise 10:794
potentiodynamic reactivation 6:509, 8:686
potentiokinetic reactivation method 9:715
techniques 7:594
tests 12:1032

ELECTROCHEMICAL POLARIZATION
11:931

ELECTROCHEMICAL POTENTIAL
1:16, 3:194, 9:759

ELECTROCHEMISTRY
8:691, 10:830

ELECTRODE POTENTIAL
6:501

ELECTROMAGNETIC INTERFERENCE
1:68

ELECTROMAGNETIC PULSE
1:68

ELECTRON PROBE MICROANALYSIS
8:666

**ELECTRON SPECTROSCOPY
FOR CHEMICAL ANALYSIS**
5:404

ELEMENTAL SULFUR
1:79

ENVIRONMENTAL DEGRADATION
4:281

ENVIRONMENTALLY ASSISTED CORROSION
6:514

ENVIRONMENTALLY ASSISTED CRACKING
7:553, 11:898

EPOXY
10:830, 12:1020

EROSION
1:2, 7:587

EROSION-CORROSION
1:2, 3:206, 5:431

EXFOLIATION
4:309

EXPERT SYSTEM
9:734

EXPOSURE TESTS
2:103

FAILURE PRESSURE
5:426

FATIGUE
2:172

FERRITIC STAINLESS STEELS
9:715, 10:838

FILM FORMATION
6:475

FLAW SIZE
5:426

FLOW
7:587
perturbation 5:431
rate effects 6:489

FOURIER TRANSFORM
3:178

FRACTURE MECHANICS TESTING
2:159

FREE RADICALS
5:411

FREQUENCY DISTRIBUTION
9:785

GALVANIC
10:830
couple 1:5
coupling correlations 4:332
protection 2:97

GALVANIC CORROSION
2:140, 4:281, 7:546, 8:691

GALVANIZED STEEL
12:1009

GALVANOSTATIC POLARIZATION
6:482

GRAIN BOUNDARY
1:42, 4:309

GRAPHITE
7:546, 10:830, 12:1020

GREEN RUST
7:569

GRINDING BALL WEAR
2:124, 132

GROUND ADAPTERS
1:68

GROUND WATER
2:140

HABER TIP
9:727

HARMONICS
3:178

HEAT EXCHANGER
4:332

HEAVY BRINE
9:764

HIGH-CHROMIUM CAST IRON
2:124, 132

HIGH-SILICON CAST IRON
3:206

HIGH-STRENGTH
alloys 4:306
steels 2:159

HIGH TEMPERATURE
1:35

oxidation 11:891, 12:990
water 5:419, 6:518

HIGH-TEMPERATURE CORROSION

1:29, 10:812

HOT CORROSION

12:983

HYDROCHLORIC ACID

6:442, 11:924

HYDRODYNAMIC/VELOCITY EFFECT

3:239

HYDROGEN

1:16, 7:553
charging time 12:1001
effect 7:587
entry 7:530
permeation time 12:1001
peroxide 1:16, 5:411
water chemistry 3:194

HYDROGEN CHLORIDE

10:812

HYDROGEN EMBRITTLEMENT

11:931

HYDROGEN SULFIDE

2:90
resistance 2:159

IMMERSION TEST

2:147, 11:910
coatings 8:671

IMPEDANCE

2:140, 3:229, 5:373, 10:794

IMPEDANCE SPECTROSCOPY

1:61

INCONEL 600

2:147

INHIBITION

4:341
metal cations 6:442
system 4:341

INHIBITORS

10:846

INTERGRANULAR

4:309

INTERGRANULAR CORROSION

6:467, 7:579, 9:715

INTERGRANULAR STRESS CORROSION CRACKING

3:194

INTERMETALLICS

4:309, 11:939

INTERNAL OXIDATION

12:990

INTERSUBGRANULAR CORROSION

11:898

IONIC STRENGTH

1:35

IR DROP

3:178, 8:624
compensation 9:727

IRON

4:277, 7:530

corrosion 8:641, 9:764
ions 8:666
phosphate 7:613
sulfur complexes 11:918

IRRADIATION-ASSISTED STRESS CORROSION CRACKING

5:384

KINETICS

9:764

LASER GLAZING

7:599

LEAD

6:482, 9:745, 12:1040

LITHIATED WATER

6:455

LITHIUM HYDROXIDE

4:320

LOCALIZED

attack 2:140
breakdown 3:185

LOCALIZED CORROSION

1:79, 5:398, 6:447, 10:794, 12:970

LOW-ALLOY STEEL

1:29, 5:419

LOW Cr

11:891

LUGGIN ASSEMBLY

9:727

M₂₃C₆-SIGMA PRECIPITATION

7:579

MASS TRANSFER COEFFICIENT

3:239

MATHEMATICAL FIT

9:785

MATHEMATICAL MODEL

1:50

MATHEMATICAL SIMULATION

4:332

MAXIMUM PIT DEPTH

10:854

METAL MATRIX COMPOSITES

1:61, 7:546

METALS

4:281

METHANOL

6:442

MICROBIOLOGICALLY INFLUENCED CORROSION

4:266

MICROELECTRONICS

5:368

MICROSTRUCTURAL HETEROGENEITY

11:898

MICROSTRUCTURE

1:29

MICROTURBULENCES

5:431

MILD STEEL

6:442

MINERAL ACIDS

11:891

MnS INCLUSIONS

5:419

MODELING OF FLOW

5:431

MOLTEN SALTS

7:599

MOLYBDATES

7:569

MONITORING

7:540

MORPHOLOGY

6:489

MORTAR-COVERED MEMBRANES

12:1001

NaCl SOLUTION

8:641

NANOCRYSTALLINE MATERIALS

5:398

NaOH SOLUTIONS

6:482

NEURAL NETWORK

8:618

NEUTRON IRRADIATION

5:384

NICKEL

alloy 8:649
base alloys 3:256, 8:691
steels 2:90

NICKEL-RESIST CAST IRON

3:206

NIObIUM

11:939

NIObIUM ADDITION

6:467

NITRIC ACID

5:391
test 9:715

NODULAR CAST IRON

3:206

OIL WELL TUBING

11:953

OPEN CIRCUIT

2:147

OPEN-CIRCUIT POTENTIAL

9:759

ORGANIC COATINGS

3:218, 8:671, 11:910

ORGANIC INHIBITORS

11:924

OXIDATION

11:939

OXYGEN

1:16, 4:266, 8:618

OZONE

12:970

PAINT

11:910
in seawater 5:379

PASSIVATION

4:320, 6:501
rate 2:132

PASSIVE

5:391

PASSIVE FILM

3:229

PASSIVITY

1:2, 3:185, 5:354

PERCHLORATE PITTING

6:482

PERFLUOROPOLYALKYLETERS

10:846

PERMUTATION TECHNIQUE

6:447

PETROLEUM PRODUCTION

8:691

pH

1:35, 50

PHASE BEHAVIOR

4:341

PHOTOELECTROCHEMISTRY

3:229

PIT

changes and effects 4:266
coalescence 2:103
density 10:854
depth 9:785
depth frequency distributions 10:854
growth resistance 4:292
propagation 4:292

PITTING

2:103, 3:178, 5:354, 7:569, 10:854

PITTING CORROSION

1:5, 3:185

PITTING POTENTIAL

2:147, 8:649

PLASTIC COMPOSITES

4:281

POINT DEFECT

3:229

POLARIZATION

6:501, 8:624
curve 2:132, 5:391
resistance 2:124, 11:924, 12:1027
resistance reproducibility 9:706
scans 9:734

POLLUTANTS

9:785

POLYIMIDE

5:368

POTASSIUM SALT VAPOR

12:983

POTENTIAL

3:256
zero charge 1:10, 3:218

POTENTIODYNAMIC POLARIZATION

2:147, 8:649

PRECIPITATION

1:42, 12:976

PREDICTIVE CALCULATIONS

5:354

PRESSURIZED WATER REACTOR PRIMARY WATER

7:553

PROBE POSITION

9:706

PROPORTIONAL LIMIT

2:90

PROTECTION POTENTIAL

8:649

RADIATION-INDUCED SEGREGATION

5:384

RAIN ACIDITY

12:1009

RAMAN SPECTROSCOPY

7:569

RANDOM PULSE

7:540

REACTIVE ELEMENT EFFECT

12:990

RECOVERY

12:976

REDOX POTENTIAL

4:266

REFERENCE ELECTRODE

1:16

REFLECTION STUDIES

6:475

REINFORCED CONCRETE

5:426, 11:960

REINFORCEMENT

11:947

REINFORCING STEEL

8:624

REMAINING LIFE

2:172

REPASSIVATION

1:2, 10:838

ROOM TEMPERATURE

8:634

ROTATING CYLINDER ELECTRODE

3:239, 12:970

R. MEASUREMENT COMPARISON

10:871

RUST CONVERTERS

12:1032

RUSTED STEEL

12:1032

SACRIFICIAL ANODE

11:960

SCANNING ELECTRON

4:266
microscopy 6:501

SEALING

1:61

SEAWATER

1:50, 2:172, 7:608, 8:660
artificial 11:898
natural 6:489
immersion 2:97

SEAWATER CORROSION

3:206

SELECTIVE LEACHING

12:1040

SELECTIVE OXIDATION

12:990

SENSITIZATION

1:42, 2:114, 6:467, 509, 7:594, 8:686
testing 7:594

SHELL STRUCTURE

7:608

SILICON

12:990

SILICON CARBIDE

7:546

SIMULATED CEMENT PORE SOLUTION

12:1001

SLIDING WEAR

11:953, 12:1027

SLOW STRAIN RATE

3:256
test 4:306, 5:391, 6:455

SODIUM CHLORIDE

10:846

SODIUM 3-N-OCTYLMERCAPTOPROPIONATE

8:641

SOILS

2:140

SOLUTION TEMPERATURE

11:882

SOUR GAS WELLS

2:159

SOUR ENVIRONMENT

1:79

STAINLESS ALLOY

10:822

STAINLESS STEEL

1:16, 2:114, 3:178, 194, 256, 4:320, 5:384, 398,
6:455, 509, 518, 7:569, 594, 608, 8:618, 634,
649, 686, 691, 10:864, 12:976

STEADY-STATE ELONGATION RATE

11:882

STEAM GENERATOR

9:745
tubing 4:292

STEEL

7:540, 587, 8:666
in concrete 9:706, 10:871
reinforced concrete 9:759

STRAIN

2:90, 12:976
rate 3:256

STRAY CURRENT

12:1020

STRESS CORROSION

1:42

STRESS CORROSION CRACKING

1:79, 3:256, 4:306, 320, 5:319, 419, 6:518, 8:618,
634, 10:822, 838
failure prediction 11:882
test methods 6:518

**STRUCTURE-EFFICIENCY COMPUTER
CALCULATIONS**

10:846

SUCKER ROD COUPLING

11:953

SULFATE

1:35

SULFIDATION

1:29, 10:812

SULFIDE STRESS CRACKING

2:90, 159

SULFITE

6:475

SULFUR DIOXIDE

12:1009

SURFACE FINISH

5:404

effects 6:489

SURFACE MORPHOLOGY

9:706

TAFEL SLOPE

11:931

TANNIC ACID

12:1032

TANNINS

12:1032

TEST METHODS

10:864, 11:910

THERMAL SPRAYING

8:660

THERMOGRAVIMETRY

10:812

THIN FILMS

5:398

THIN OXIDE FILM

9:745

THIOSULFATE

2:147

TIN

2:140

TITANIUM

11:939

alloy 1:79, 3:256

TOUGHNESS

5:426

TRANSGRANULAR CRACKING

5:419

TRANSPASSIVE

5:391

TUBE-TUBESHEET INTERACTIONS

4:332

UNDERFILM CORROSION

8:660

UNIFORM CORROSION

10:794

VACANCY

3:229

VOLTAMMETRIC CYCLING

7:530

VOLTAMMETRY

7:540

WALSH TRANSFORM

7:540

WATER

7:587

activity 4:277

flow rate 1:16

WEIGHT LOSS

4:266

WELDING

2:114

WELDS

10:864

WETTING

3:218, 9:706

X-RAY PHOTOELECTRON SPECTROSCOPY

5:404

ZINC

11:947

ZINC-BASE COATINGS

2:97

ZINC METAL COATINGS

8:660

ZINC-RICH EPOXY POLYIMIDE

5:379

ZINC-RICH ETHYL SILICATE

5:379

ZINC-RICH PAINTS

5:379

ZIRCONIUM

5:391

alloys 3:256